

## **FINAL PROGRAMMATIC ENVIRONMENTAL, SAFETY, AND HEALTH EVALUATION**

May 2002

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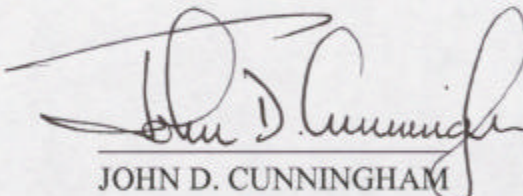
Prepared for:

National Polar-orbiting Operational Environmental Satellite System  
Integrated Program Office  
Environmental Safety and Health Working Group  
Silver Spring, Maryland

NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE  
SYSTEM (NPOESS)  
PROGRAMMATIC ENVIRONMENTAL, SAFETY,  
AND HEALTH EVALUATION (PESHE)

National Polar-orbiting Operational Environmental Satellite System  
Integrated Program Office  
Silver Spring, Maryland



  
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## EXECUTIVE SUMMARY

This National Polar-orbiting Operational Environmental Satellite System (NPOESS) Integrated Program Office (IPO) has prepared this Programmatic Environmental, Safety, and Health Evaluation (PESHE) document to effectively manage Environmental, Safety and Health (ESH) issues that may arise during implementation of the NPOESS program. Department of Defense (DoD) 5000.2-R, paragraph C5.2.3.5.10, prescribes the content of the PESHE and its use. This PESHE will be used by the NPOESS IPO in their ESH planning and budgeting decisions. The Environmental, Safety and Health Working Group (ESHWG) of the NPOESS IPO will provide technical assistance and oversight of programmatic ESH compliance and will identify and resolve ESH issues.

The Memorandum of Agreement (MOA), dated 26 May 1995, between the DoD, Department of Commerce (DOC), and the National Aeronautics and Space Administration (NASA) implies that DoD will assume the ESH lead for space and launch support activities and that DOC will take the lead for Command, Control, and Communication (C<sup>3</sup>) and Interface Data Processing (IDP) activities.

The NPOESS system will be implemented in a responsible and sustainable manner. The IPO will analyze the potential environmental effects resulting from implementation of major proposed NPOESS actions in conformance with requirements of the National Environmental Policy Act (NEPA). Alternative actions will be investigated for comparison purposes and to assist in the identification of the environmentally preferable means for achieving the NPOESS mission. For major actions proposed by NPOESS abroad, impact analyses will be performed in accordance with Executive Order (EO) 12114. Where required or prudent, the IPO will identify and implement feasible measures to reduce or eliminate the level of expected environmental effects. Throughout the program, the IPO will assess the impact of potential regulatory changes to the NPOESS program. It is anticipated these regulatory changes will pose minimal cost, schedule, and performance impacts to the NPOESS program. The NPOESS ESH schedule identifies key ESH tasks that will be completed during specific program milestones.

The NPOESS program is a follow-on to existing heritage environmental satellite systems. As a result, it is anticipated that well-established processes will be followed in satellite design, construction, processing, and launch. Furthermore, NPOESS C<sup>3</sup> and data processing systems are also expected to be similar to existing systems. Because of these similarities, the IPO projects minimal ESH, technical, schedule, and cost risks. However, the IPO recognizes that the ever-changing nature of ESH regulations will require active management of ESH compliance throughout the program life. The IPO will carefully review differences between NPOESS and these heritage systems after NPOESS design is sufficiently detailed to reassess the risks arising from those differences.

Overall, ESH technical, schedule, and cost risks will be reduced by:

- ensuring ESH requirements are incorporated into NPOESS acquisition contracts;
- establishing an ESHWG to identify and manage ESH risks;
- identifying ESH personnel within the IPO to execute the objectives outlined in the PESHE;
- evaluating contract proposals to ensure contractors have ESH procedures and personnel well established in their corporate culture;
- monitoring contractor ESH compliance, particularly at government facilities;
- following standard, well-established launch-processing procedures, such as the Eastern-Western Range (EWR) Regulation 127-1, and
- integrating ESH considerations in the systems engineering process.

The IPO has developed a proactive strategy to ensure complete ESH compliance with minimal impact on resources. Our approach has been to develop a strategy for the entire life cycle of the NPOESS program. We are confident our approach will succeed. This PESHE was developed by a team of experts from the IPO supplemented by support contractors with many years of experience providing ESH support to the government and industry. Additional expertise was provided by the Office of the Secretary of the United States Air Force (USAF), Deputy Secretary for Science, Technology, and Engineering; the National Oceanic and Atmospheric Administration (NOAA) Office of Policy and Strategic Planning (OPSP); Headquarters, Space and Missile Systems Center (SMC); and NPOESS contractors. This PESHE outlines the programmatic ESH strategy that will be implemented throughout the life cycle of the NPOESS Program. The PESHE will be updated prior to each acquisition milestone and when program changes drive the need for reevaluation or refinement of the IPO's ESH approach.



## **SECTION 1 NPOESS**

### **1.1 System Purpose and Description**

#### **1.1.1 Purpose**

Prior to 1994, the United States (US) government operated and maintained two polar-orbiting meteorological systems. The United States Air Force (USAF), under the Department of Defense (DoD), was responsible for the Defense Meteorological Satellite Program (DMSP) and the National Oceanic and Atmospheric Administration (NOAA), under the Department of Commerce (DOC), was responsible for the Polar-orbiting Environmental Satellite (POES) program. To reduce the costs of acquiring and operating two polar-orbiting environmental systems, Presidential Decision Directive (PDD/NSTC-2), dated 5 May 1994, directed the DoD and DOC weather satellite programs to converge their separate polar-orbiting operational environmental satellite programs into a single integrated program.

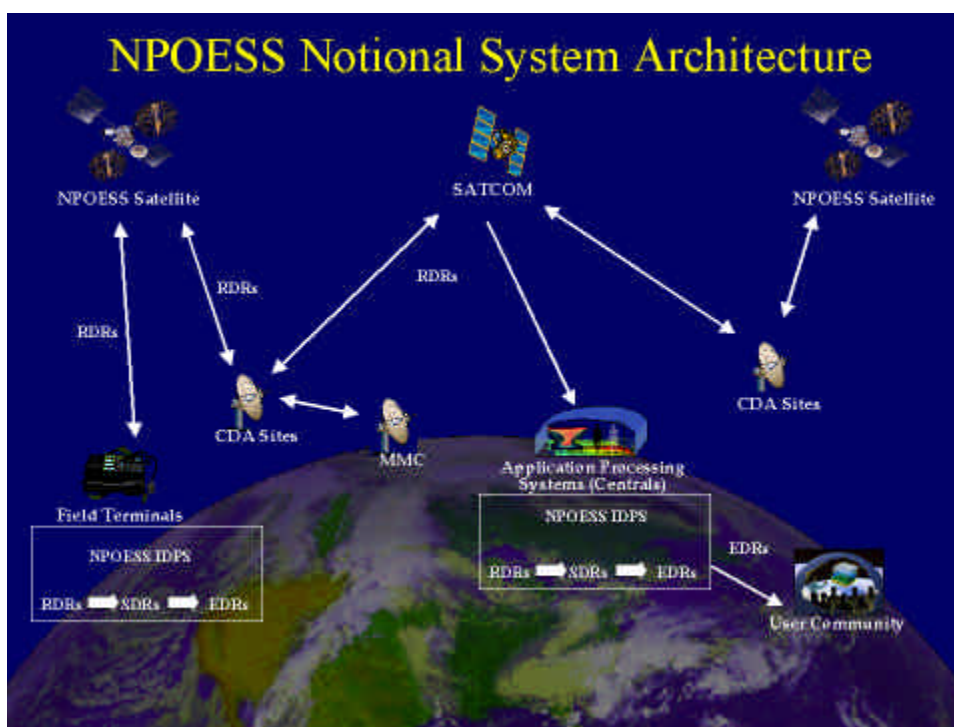
The Office of Science and Technology Policy (OSTP), Convergence Implementation Plan, dated 2 May 1994, and language in the Memorandum of Agreement (MOA) for National Polar-orbiting Operational Environmental Satellite System (NPOESS), directs DoD and DOC to merge the operations of their current polar satellite programs “as soon as practical.” NPOESS is the converged program. The NPOESS program will provide a remote sensing capability to acquire and disseminate to processing centers, global and regional environmental imagery and specialized meteorological, climatic, terrestrial, oceanographic, solar-geophysical and other data in support of DOC/NOAA mission requirements and DoD peacetime and wartime missions for a period of over 13 years, beginning with the planned launch of the NPOESS Preparatory Project (NPP) in 2006 and continuing with launches of six NPOESS satellites from 2009 through about 2019. On 6 August 1996, the NPOESS Acquisition Decision Memorandum (ADM) was issued directing the System Program Director (SPD) to proceed toward a Milestone (MS) I decision. Currently DMSP and POES daily operations are fully converged, and are operated by NOAA at their Suitland, Maryland, Mission Management Center (MMC). An MS I review in February 1997 resulted in direction to proceed into the Program Definition and Risk Reduction (PDRR) phase. An Engineering and Manufacturing Development (EMD) decision is currently scheduled for August 2002.

Production/deployment, satellite production, and ground station construction activities will occur during the EMD phase. Launch support and asset disposition activities will also occur during the EMD phase.

## 1.1.2 System Description

### 1.1.2.1 Overview

The NPOESS system is comprised of four activities: 1) Space Activities; 2) Launch Support; 3) Command, Control, and Communication (C<sup>3</sup>); and 4) Interface Data Processing (IDP). The system description presented in this Programmatic Environmental, Safety, and Health Evaluation (PESHE) is the government's notional baseline (Figure 1). Competing NPOESS contractors are examining alternative architectures, particularly for the C<sup>3</sup> activities. As the baseline is changed, this PESHE will be updated to reflect the most current program status, as well as the resulting Environmental, Safety and Health (ESH) implications.



**FIGURE 1 NPOESS NOTIONAL SYSTEM ARCHITECTURE**

### 1.1.2.2 Space Activities

Space activities will include manufacture and operation of platforms and sensors that will process, collect, and store environmental and other data until they can be downlinked directly to the C<sup>3</sup> segment and to Field Terminals (receivers used by deployed/remote military units and civilian users to obtain environmental data). The NPOESS constellation will consist of operational satellites in three sun-synchronous polar orbits. Those satellites will serve as

platforms for numerous sensors used to monitor the meteorological, oceanographic, terrestrial and space environment; and to collect climatic, surface, and search and rescue data.

The NPOESS Preparatory Program (NPP) is a joint effort between the National Aeronautics and Space Administration (NASA) and the Integrated Program Office (IPO) and will be used by the IPO as a risk-reduction effort for several NPOESS activities. NPP will consist of a single satellite with several NPOESS and NASA sensors on board. The satellite will be launched into a similar orbit and will perform a mission similar to the proposed NPOESS spacecraft. NASA will provide the overall management of the system and will procure the spacecraft and the ATMS microwave sounder. The IPO will procure two of the three planned instruments, C<sup>3</sup>, and IDP equipment. The C<sup>3</sup> architecture and IDP activities are anticipated to be the same for both NPP and NPOESS.

The NPOESS satellite design is currently in the PDRR phase. During this phase, documents such as the Integrated Operational Requirements Document (IORD), Technical Requirements Document (TRD), and Cost Analysis Requirements Document (CARD) are being developed or updated by the IPO to establish the program requirements baseline. The IPO has awarded nine sensor development and two PDRR contracts to promote competitive development of preliminary designs for satellites and sensor systems. The competitive development process is designed to reduce risk in critical areas prior to finalization of the NPOESS production design in the EMD phase. Processing and deployment of NPOESS satellites may occur at Vandenberg Air Force Base (AFB); however, the Shared System Performance Responsibility (SSPR) contractor will choose the launch location, with IPO concurrence. Once selected, the SSPR contractor will develop satellites, and will be responsible for overall system performance. The SSPR contractor will also assume responsibility for management of existing and future sensor contracts.

Previous satellite procurements have created a significant technology and manufacturing base. NPOESS manufacturing and processing activities will be similar to previous DMSP and POES satellite activities. NPOESS will inherit and utilize the existing technology and manufacturing base, and will incorporate low-risk modifications.

#### 1.1.2.3 Launch Support Activities

Launch support activities will include the manufacture and processing of satellite support equipment and facilities, including Aerospace Ground Equipment (AGE), Real Property Installed Equipment (RPIE), and launch facilities. AGE consists of computer checkout systems and other equipment to process satellites prior to launch. RPIE includes items such as power equipment, air conditioning equipment, and non-flight fuel stores. The launch facilities include payload test facilities and other equipment required to place the satellite into operational orbit.

The launch vehicle for the NPOESS program will be the medium Evolved Expendable Launch Vehicle (EELV). The EELV for each mission will be procured through a separate contract, facilitated by the EELV System Program Office (SPO). The IPO will review National Environmental Policy Act (NEPA) documents prepared by EELV SPO for completeness and applicability to IPO actions.

#### 1.1.2.4 Command, Control, and Communication Activities

Satellites will store and download all data to ground stations, known as Command and Data Acquisition (CDA) Stations (CDAS), which will provide telemetry data to the MMCs and environmental data to four weather agencies, known as “Weather Centrals (Centrals).” NPOESS will also provide continuous downlink of data for receipt by worldwide civilian and military users. DoD and DOC operational requirements will necessitate that the NPOESS program have the capability to broadcast two types of real-time data. These consist of a High Rate Data (HRD) link in the X-band frequency range and a Low Rate Data (LRD) link in the L-band range. The HRD link will be designed for relatively fixed weather sites with the capability to receive raw environmental data from satellites. The LRD link will be tailored to the mobile user, and will relay a subset of the raw environmental data carried on the HRD link.

NPOESS C<sup>3</sup> activities will consist of installation and operation of shared and dedicated resources, such as antennas, communication links, and ground equipment, needed to fulfill the NPOESS mission. The SSPR contractor will develop this C<sup>3</sup> architecture. However, the current government baseline consists of three high latitude ground stations and two MMCs, located at Suitland, Maryland (primary MMC) and Schriever AFB, Colorado (backup MMC). C<sup>3</sup> resources/nodes that (1) meet NPOESS operational requirements, (2) operate in accordance with appropriate international agreements, and (3) have a US presence, are considered under US control. If a C<sup>3</sup> resource/node is not under US control, the overall C<sup>3</sup> architecture must have capability to meet NPOESS requirements without reliance on the resource/node not under US control. High latitude foreign ground stations may also be used by NPOESS if necessary. The US portion of the C<sup>3</sup> activities for NPOESS control must be able to meet 100 percent of NPOESS C<sup>3</sup> requirements without relying on stations on foreign soil. Installation of new ground facilities or substantial modification of existing ground facilities will generally require completion of the Environmental Impact Analysis Process (EIAP) in conformance with regulations contained in 40 *Code of Federal Regulations* (CFR) 1500-1508, Air Force Instruction (AFI) 32-7061 as promulgated in 32 CFR 989, NOAA Administrative Order (NAO) 216-6, DoD Directive (DoDD) 6050.7, and Executive Order (EO) 12114, as applicable.

NPOESS C<sup>3</sup> activities will include all functions required to monitor the day-to-day state of health of all operating spacecraft and to support the delivery of data to the Centrals. All mission data will be provided to the Centrals in accordance with the IORD. Real-time data will be

provided to field users via a direct communications link between the spacecraft and user terminals. The NPOESS C<sup>3</sup> ground equipment will be used for mission command; launch and early orbit operational control; telemetry and code configuration management; spacecraft analysis; telemetry data storage; data encryption/decryption and distribution; and spacecraft simulation.

Further details of the C<sup>3</sup> architectures will be proposed by each competing SSPR contractor. The C<sup>3</sup> acquisitions will result in procurement of Non-Developmental Item (NDI) hardware and software. Both government and contractor support may be used for operation, maintenance, and repair of C<sup>3</sup> assets.

A projected NPOESS launch schedule is shown in Table 1. It is important to note that all NPOESS launch dates are preliminary and subject to change. The actual launch dates will be determined based on the estimated need date of replacement satellites for the current POES and DMSP constellations. The NPP launch date is controlled by NASA and is more defined, with a projected launch date of May 2006.

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**Table 1**  
**NPOESS Launch Schedule**

<b><u>Satellite</u></b>	<b><u>Projected Launch Date</u></b>
NPP	no later than May 2006
NPOESS C1	April 2009
NPOESS C2	May 2011
NPOESS C3	May 2014
NPOESS C4	May 2016
NPOESS C5	July 2018
NPOESS C6	about 2019

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#### 1.1.2.5 Interface Data Processing Activities

The ground station network will route data to the data processing centers (Centrals). The Centrals will process NPOESS Raw Data Records (RDR) and/or Environmental Data Records (EDR), and other data to produce environmental products for their customers. The following will operate NPOESS Centrals: Air Force Weather Agency (AFWA), Fleet Numerical Meteorology and Oceanography Center (FNMOC), National Environmental Satellite, Data and Information Service (NESDIS) and the Naval Oceanographic Office (NAVOCEANO).

The IDP activities will consist of data processing functions at Centrals and at field terminals. The IDP activities shall consist of at least, but will not be limited to, acquisition and operation of the hardware and software necessary to receive and process raw data into RDRs and EDRs. Data will be delivered to the Centrals' IDP component as RDRs. The IDP will then convert RDRs to the appropriate EDRs for use by forecasters. In addition, the satellites will provide real-time data to field terminal components. Other federal, state, and local agencies, universities/academia, and industry, on a worldwide basis, will also be able to access NPOESS data. The IPO will be responsible for IDP software for field terminals, but is not responsible for the acquisition of user field terminals.

## **1.2 Program Master Schedule**

The current NPOESS master schedule and ESH timelines are shown in Figure 2.

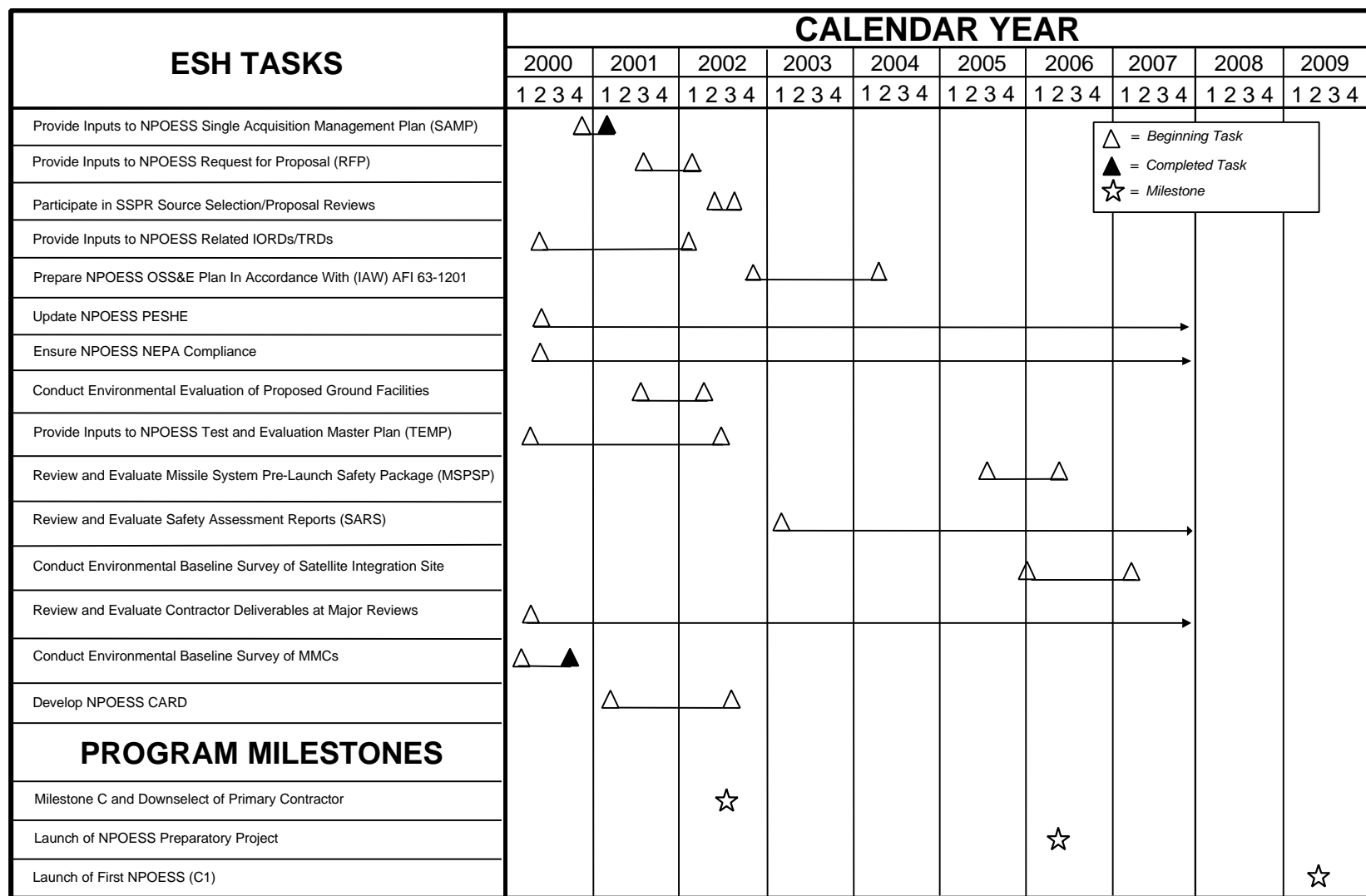


FIGURE 2 NPOESS ESH AND PROGRAM SCHEDULES

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## **SECTION 2 ESH PROGRAM INTEGRATION**

### **2.1 Program Goals and Strategies**

The DoD 5000.2-R requires each DoD acquisition program to prepare a PESHE early in the program life cycle. This PESHE identifies and provides status on ESH issues relating to NPOESS acquisition, construction, testing, operation, repair, maintenance, and disposition activities. These activities will be conducted in compliance with applicable federal, state and local ESH laws, and regulations and EOs. The PESHE will aid the SPD in ESH decision-making throughout the life cycle of the program and addresses the following factors of concern:

- ESH compliance,
- NEPA/EO 12114 compliance,
- safety and health,
- hazardous material management,
- pollution prevention, and
- explosive safety.

The NPOESS will be acquired by the IPO from a SSPR contractor. The SSPR contractor will be responsible for design, manufacture, and deployment of NPOESS physical assets. To ensure that ESH requirements and objectives are properly factored into NPOESS design, the IPO will form an Environmental, Safety and Health Working Group (ESHWG) led by a qualified government engineer. The ESHWG will review the draft Request for Proposal (RFP) and provide input on Contract Data Requirement List (CDRL) and Data Accession List (DAL) items to ensure that ESH requirements and goals are adequately represented in SSPR deliverables. The ESHWG will evaluate the SSPR proposals for conformance with ESH evaluation criteria. After SSPR award, the ESHWG will review progress by the SSPR in complying with ESH requirements and satisfying ESH objectives. This will be an oversight role that will be vigorously implemented by the ESHWG. Because the SSPR award fee will be partially based on achievement of goals identified in the contract, including specific ESH objectives, in addition to overall mission success, the IPO will retain sufficient control to ensure that the SSPR carries out the designated ESH policies to the maximum extent possible.

This PESHE was developed using guidance gained from Section 5.2.10 of the Defense Acquisition Deskbook. Any significant updates to the PESHE will be coordinated through the NPOESS IPO. The PESHE is a living document, and will be updated prior to milestone reviews to address changes affecting ESH issues, including the effects of changes to ESH laws and regulations. The PESHE will also be updated at any time to reflect major program changes.

## **2.2 Organization of Program**

### **2.2.1 NPOESS IPO**

As a result of PDD/NSTC-2, the NPOESS IPO was formed as a tri-agency program comprised of DoD, DOC, and NASA. The IPO's mission is to develop, acquire, operate, and sustain NPOESS. The SPD will manage the day-to-day activities of the NPOESS program and report to the Executive Committee (EXCOM). SAF/US will be the Milestone Decision Authority (MDA). Acquisition decisions made by the DoD EXCOM member will be undertaken with concurrence of the other EXCOM members. The DOC, through NOAA, will be the lead agency responsible for operation of the satellite and ground activities. In addition, NOAA will assume the lead responsibility for interfacing with national and international civil user communities, consistent with national security and foreign policy requirements. The DoD will be the lead agency responsible for satellite and component acquisitions. DoD will provide the majority of the acquisition personnel and acquisition infrastructure support to the IPO, including legal, contracting, administration, financial management, and logistics. NASA will be responsible for facilitating the development and insertion of new, cost-effective and enabling technologies to enhance the ability of the converged system to accomplish its mission.

The NPOESS IPO is responsible for ESH compliance and will perform ESH evaluations on all acquisitions during the source-selection process. The IPO will ensure compliance with federal, state, and local laws/regulations, and DoD and DOC policies and requirements through inclusion of ESH requirements in the SSPR contract with mandatory flow down to subcontractors used by the SSPR. The IPO will work to reduce pollution impacts of NPOESS activities in order to protect public health and the environment from adverse effects that may result from implementation of activities conducted by the NPOESS IPO.

Management and engineering processes will be implemented throughout the NPOESS life cycle to ensure that all ESH hazards are identified and eliminated, reduced, or controlled within program cost, schedule, and performance constraints. For this process, the IPO will:

- assign dedicated ESH personnel to oversee ESH program activities;
- incorporate ESH requirements into contract documents as an integral part of the management and engineering process;
- establish an ESHWG in conjunction with Integrated Product Teams (IPTs) to address issues, track ESH risks, resolve violations and deficiencies, and ensure compliance with all applicable regulations; and
- identify, track, evaluate, and facilitate resolution of ESH concerns during SSPR program reviews and proposals, technical interchanges, audits and other information exchanges.

### **2.2.2 System Program Director and ESHWG**

The SPD will establish an ESHWG that will be delegated authority for ensuring NPOESS compliance with all applicable federal, state, and local environmental laws and regulations, including; EOs; NAOs; DoD Instructions (DoDIs); AFIs; Secretary of the Air Force for Acquisition (SAF/AQ) policies; Air Force Materiel Command (AFMC) instructions; and international treaties/agreements. The ESHWG will verify that the program contractors are also complying with these requirements. More specifically, the SPD and ESHWG will have primary responsibility for ensuring that the IPO is complying with NEPA and NEPA-implementing guidelines of the President's Council on Environmental Quality, the USAF, and NOAA.

The ESHWG will consist of, at a minimum, member of the IPO, SSPR ESH managers, NOAA Office of Policy and Strategic Planning (OPSP), NPOESS contractors and members of relevant Environmental Planning Functions (EPFs) as necessary. Others will participate in the ESHWG as necessary, including functional managers within the IPO. The ESHWG will meet quarterly to track status of NEPA compliance, identify and resolve overall ESH compliance issues, discuss ESH risks and possible mitigation strategies, review changes to ESH laws/regulations as well as their associated impacts, and resolve other ESH issues/deficiencies as necessary. Members of the ESHWG will interface with the launch vehicle safety and C<sup>3</sup> sites safety agencies as necessary to ensure the timely resolution of range safety issues. The ESHWG has been formed and the first meeting occurred during the first quarter of calendar year (CY) 2000. The ESHWG has met on a quarterly basis through 2000 and 2001.

The SSPR contractor will be a member of the ESHWG, and will be responsible for proposing plans and strategies to meet IPO ESH requirements.

The ESHWG Charter (see Appendix 5), developed by the members of the ESHWG, further outlines roles and responsibilities of participating members.

The ESHWG will ensure that ESH risks are clearly defined in terms of their hazard severity and probability of occurrence in accordance with Military Standard (MIL-STD)-882D. The SPD will be periodically informed of ESH risks by the ESHWG. Acceptance of ESH risks will be by the Component Acquisition Executive (CAE) for all high-risk items, the Program Executive Officer (PEO) for all serious-risk items, and the SPD for all medium- or low-risk items per DoD 5000.2-R.

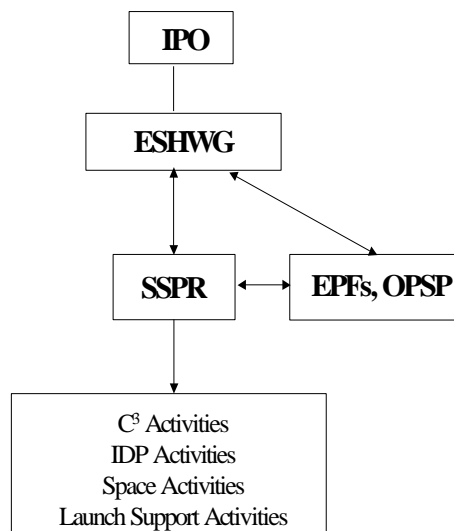
The SPD will also be responsible for complying with the prohibition of Class I Ozone Depleting Substances (ODS) in program activities and with requirements of EO 12969, "Federal Acquisition and Community Right-to-Know." Contractors will ensure that pollution prevention, in accordance with EO 12856, "Federal Compliance With Right-To-Know Laws and Pollution Prevention Requirements," is a top priority throughout the life-cycle of the program. Each contractor/subcontractor will be prohibited from using/specifying the use of Class I ODS in

NPOESS design, construction, test, manufacturing, operational, launch support, and disposal activities unless the IPO obtains specific approval from a Senior Acquisition Official in accordance with AFI 32-7086. Contractors/subcontractors will be required to describe their screening processes and methodology for eliminating/reducing the use of hazardous materials.

### 2.2.3 DoD and DOC ESH Coordination

ESHWG will work closely with DoD and DOC ESH managers who will participate in quarterly meetings of the ESHWG. DoD and DOC organizations have designated ESH line managers that are responsible for ensuring ESH compliance. Within DoD, EPFs at appropriate military installations will ensure ESH compliance with DoD ESH requirements. Within DOC, NOAA's OPSP will ensure adherence to DOC environmental policies. Figure 3 demonstrates the role of the DoD and DOC ESH managers. The ESH managers will provide expert advice to the ESHWG on:

- ESH compliance at contractor facilities and government installations,
- ESH compliance strategies,
- ESH risks,
- proper disposition of government-generated solid and hazardous wastes,
- strategies to mitigate hazards and deficiencies/violations, and
- development and implementation of pollution prevention efforts.



**FIGURE 3 NPOESS ESH RESPONSIBILITIES**

Space and Missile Systems Center (SMC) will be the EPF for launch support activities. OPSP will provide ESH support for C<sup>3</sup> and IDP activities. These organizations will:

- assist the IPO in preparing a Description of Proposed Action and Alternatives and actively support the IPO during all phases of the NEPA compliance process,
- review Air Force Form 813—"Requirements for Environmental Impact Analysis"—as submitted by the IPO,
- review all NEPA documents, and
- coordinate support and expertise available in their organizations.

#### **2.2.4 SSPR Contractor**

The NPOESS program currently has selected two potential SSPR contractors for the design, manufacturing, and deployment of the NPOESS system. In August 2002, as part of the EMD decision, a final SSPR contractor will be selected. The winning contractor will have responsibility for all NPOESS activities. The SSPR will be responsible for full ESH compliance and will report directly to the IPO.

The IPO is ultimately responsible for ensuring all applicable ESH clauses are stipulated in acquisition contracts. The ESHWG will carefully monitor SSPR activities to ensure full compliance with ESH requirements, through review of CDRLs and DALs, inspection of SSPR facilities, and communications within the ESHWG meetings and at other times as appropriate.

#### **2.2.5 Budget Allocation to ESH**

The IPO will assign one full-time general engineer to oversee integration of the ESH Program into the NPOESS acquisition. The assigned general engineer will be an experienced government employee who will be a member of ESHWG. The IPO will directly contract for qualified expertise in the following areas as necessary to participate in the NPOESS acquisition, evaluate bids, and oversee system deployment:

- NEPA/EO 12114 Compliance
- Hazardous Materials Management
- Environmental Baseline and Site Assessment Studies
- Pollution Prevention
- Occupational Safety
- Launch Processing Safety

The IPO general engineer will be assisted by contractors. The level of contractor support is expected to be equivalent to 1 to 1.5 full-time staff. This level of contractor support will last throughout deployment, operation, and eventual decommissioning of NPOESS.

The assigned general engineer and support contractor will oversee the implementation of the NPOESS by the SSPR. The contractor support will be procured outside the SSPR contract to

avoid a conflict of interest. The SSPR bids will be evaluated by the IPO to assure that the SSPR has assigned appropriate resources to fulfill ESH requirements for which the SSPR will have primary responsibility. It is envisioned that the IPO ESH program will be conducted at two levels, the IPO and the SSPR, with the ESHWG providing a formal mechanism for communication and coordination among IPO staff and contractors and SSPR staff.

#### **2.2.6 ESH Issues Tracking Methodology**

The ESHWG will track ESH issues. The ESHWG will meet quarterly and will prepare minutes for each meeting. The minutes will identify ESH issues of concern raised at the meeting and either the resolution of the issue or the need for further action to address the issue. If further action is required on an issue, progress toward resolving the issue will be tracked at each subsequent ESHWG meeting and reported in the minutes until final resolution. The IPO will maintain a complete set of minutes for all ESHWG meetings throughout the life cycle of NPOESS.

#### **2.2.7 ESH Integration into Key Program Requirements**

ESH policies and objectives will be included in the NPOESS EMD RFP. The RFP will include requirements for CDRL and DAL items to ensure proper integration of ESH requirements into the SSPR functions. Appropriate evaluation criteria for ESH matters will be included in Sections L and M of the RFP.

After SSPR award, the ESHWG will review all CDRL and DAL submissions from the SSPR contractor for accuracy, completeness, and appropriateness. Deficiencies or areas of needed improvement will be formally called out for correction by the SSPR. The ESHWG will conduct research into regulatory matters; inspect the physical condition of NPOESS manufacture, launch, and C<sup>3</sup> facilities and proposed facility sites; and consult with EPFs, OPSP, and other agencies as necessary to obtain necessary information and data to perform its ESH oversight role.

#### **2.2.8 International ESH Considerations**

It is expected that all NPOESS space vehicles will be predominantly designed by US companies and manufactured in the US. Manufacture of NPOESS sensors by companies outside the US would be held to US ESH standards. All launches and launch-support activities are expected to occur in the US. C<sup>3</sup> facilities will likely be located both in the US and abroad. Environmental Review Documents (ERDs) will be prepared in conformance with EO 12114 and NAO 216-6 for all C<sup>3</sup> facilities located outside the US. Because these C<sup>3</sup> facilities will be developed and operated by the DOC, it is appropriate that environmental impact analysis proceed under DOC regulations. IDP activities will primarily occur at Centrals located within the US. Field terminals may be installed at existing US facilities or mobile assets located abroad.

However, the field terminals will be small pieces of equipment and installation and operation of that equipment, whether in a fixed structure or a mobile vessel, would not be a major federal action and would not have the potential to cause significant environmental effects.

Government personnel, the SSPR, or subcontractors to the SSPR will operate NPOESS facilities and equipment. The ESHWG will be responsible for ensuring that ESH requirements are applied to operational activities whether occurring in the US or abroad.

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## SECTION 3 PLANS, ACTIONS, AND ACCOMPLISHMENTS

### 3.1 ESH Compliance

The NPOESS ESHWG has identified multiple ESH compliance documents and plans to be prepared and maintained throughout the life of the program. The documents in Table 2 outline the current requirements, and the table by no means represents an all-encompassing list of ESH documents. As the NPOESS architecture becomes more defined, additional documents may be needed.

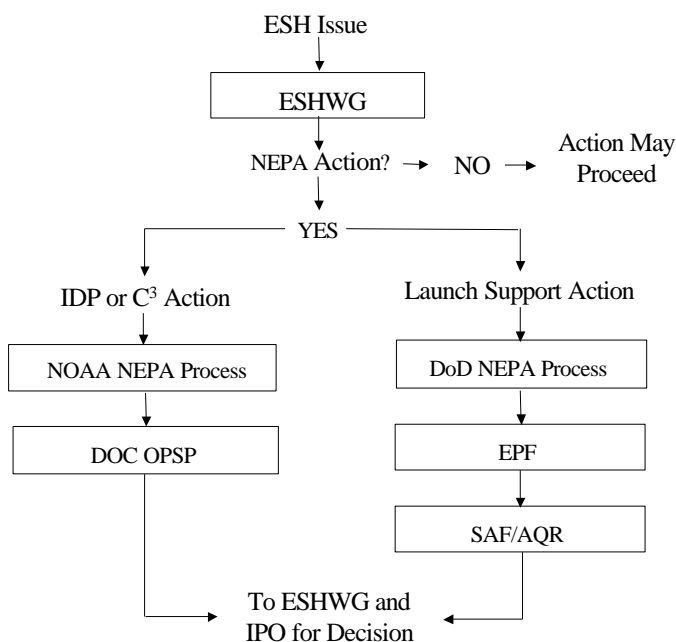
**Table 2**  
**NPOESS ESH Documentation**

<b><u>Document</u></b>	<b><u>Responsible Party</u></b>	<b><u>Applicable Regulation</u></b>	<b><u>Projected Completion Date</u></b>
Programmatic ESH Evaluation	IPO	DoD 5000.2-R	2002
ESHWG Charter	IPO	PDD/NSTC-2	2001
Operational Safety, Suitability, and Effectiveness (OSSE) Plan	IPO	AFI 63-1201	2003
NEPA Environmental Assessment (EA) Documents	IPO	40 CFR 1500-1508, NAO 216-6, AFI 32-7061	2002 - 2007
ERDs	IPO	EO 12114, NAO 216-6	2004
Environmental Due Diligence Assessments	IPO	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 120,  DOC Real Property Management Manual, AFI 32-7066	2004
NPOESS Spacecraft Environmental Base-line Survey of Launch-Processing Site	IPO	AFI 32-7061	2006
Missile System Pre-launch Safety Package (MSPSP)	SSPR	Eastern-Western Range (EWR) Regulation 127-1	2006
Health Hazard Analysis Report (HHAR)	SSPR	AFI 91-202	Throughout Program
Safety Assessment Reports (SARs)	SSPR	Not Applicable	Throughout Program
Pollution Prevention Plan	SSPR	AFI 32-7080	2003
Hazardous Materials Handling Plan	SSPR	AFI 32-7086, EO 12856	2003

## 3.2 NEPA/EO 12114 Compliance

### 3.2.1 Overall Approach

Responsibility for NEPA compliance within the IPO is shared by NOAA and the USAF. Figure 4 demonstrates the division of NEPA compliance responsibilities and their relationship with the ESHWG.



**Implementation as appropriate**

**FIGURE 4 NPOESS NEPA COMPLIANCE**

NOAA will be responsible for NEPA/EO 12114 compliance issues associated with the new construction or expansion of C<sup>3</sup> or IDP facilities. Environmental review of these activities will be performed by the IPO in conformance with the process outlined in NAO 216-6 for NEPA/EO 12114 compliance.

The USAF will be responsible for NEPA compliance issues associated with launch-support activities for NPOESS satellites. The IPO will perform environmental review of these activities in conformance with AFI 32-7061. NASA will be responsible for NEPA compliance for the processing, launch, and early-orbit operation of the NPP satellite. Environmental review of those actions will follow the NASA regulations at 14 CFR 1216. The IPO will keep abreast of the NASA environmental review process and provide technical assistance to NASA as appropriate.

Launch of the NPP satellite will use the Delta II. At this time, we are researching documentation for the Delta II.

The NPOESS satellite will use the EELV. The USAF prepared an Environmental Impact Statement (EIS) for the EELV program and issued a NEPA record of decision (ROD) for operation of the EELV in June 1998. The IPO expects that the 1998 ROD adequately addresses all environmental impacts expected to result from EELV launches, but will review the document to confirm that the impact analyses completely address NPP or NPOESS launch issues. If necessary, the IPO will update the EELV EIS studies with supplemental analysis.

The following NPOESS segment is Categorically Excluded (CATEXed) from NEPA analysis under the applicable agency regulations: installation of IDP equipment at Centrals and field terminals. NAO 216-6 section 6.03c3(d) excludes from NEPA analysis routine program functions such as “environmental satellite services” and “environmental data and information services,” which covers the proposed NPOESS IDP activities.

Table 3 is a list of NEPA documents that would be prepared to analyze NPOESS actions or adopted by reference to achieve NEPA compliance. It is expected that EAs, and not EISs, will be prepared by the IPO or NASA to address construction and/or expansion of C<sup>3</sup> facilities, and pre-launch processing and operation of NPP and NPOESS satellites. NPP spacecraft will be initially acquired by NASA and will be transferred to IPO 90 days after launch into space.

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**Table 3**  
**NEPA Compliance Schedule**

<b><u>Proposed Action</u></b>	<b><u>Lead Agency</u></b>	<b><u>Governing Regulation</u></b>	<b><u>Completion Date</u></b>
Construction and/or expansion of C <sup>3</sup> facilities	IPO	NAO 216-6	2004
Pre-launch processing and operation of NPP	NASA	14 CFR 1216	2004
Launch NPP satellites using Delta II	NASA	14 CFR 1216	2005
Pre-launch processing and operation of NPOESS satellites	IPO	AFI 32-7061	2007
Launch NPOESS satellites using EELV	USAF	AFI 32-7061	1998

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The IPO will maintain overall responsibility for NEPA/EO 12114 compliance. The bifurcation of responsibility for environmental impact analysis between DoD and DOC processes will not result in inappropriate segmentation of the analysis due to the nature of the NPOESS activities. Decisions as to the pre-launch processing, launch, and operation of space vehicles will not prejudice the selection of locations for C<sup>3</sup> facilities. The IPO and SSPR will have wide

latitude in the selection of locations for installation of C<sup>3</sup> facilities and that latitude will not be curtailed by the design features of the space vehicles or the launch location. Further, due to the nature of C<sup>3</sup> actions and the expected wide geographic spread of those actions, environmental impacts that may result from siting, construction, operation, and eventual decommissioning of C<sup>3</sup> facilities or equipment would not add to the impacts that would result from processing and launch of space vehicles. The space vehicle activities will occur at existing launch facilities or in space, and no substantial new construction will be undertaken to deploy or operate the NPOESS space vehicles. Some construction may be needed to provide C<sup>3</sup> services for NPOESS, but that construction would occur at geographic locations that are distant from the space-vehicle processing and launch actions. The physical and socioeconomic effects of the space-vehicle actions will not add to the effects that may result from development of the C<sup>3</sup> and IDP facilities. Thus, it is appropriate and efficient under 40 CFR 1500-1508 to conduct separate environmental impact analysis for the various NPOESS segments.

In an effort to avoid potential ESH violations that could result in programmatic delays and increased cost, the IPO plans to work with NPOESS contractors and subcontractors to develop proactive ESH plans that address compliance with the ESH regulatory trends. During MS-I, program activities occurred only at contractor's facilities where the contractor was responsible for minimizing hazardous material releases/environmental impacts, and protecting personnel and public health. It would be premature for the IPO to submit NEPA notifications to commence the EIAP until selection of the SSPR because many details of the NPOESS program are uncertain, such as the satellite design, launch processing and deployment locations, and ground station locations. The IPO will implement a phased environmental review approach to comply with NEPA for proposed actions such as satellite processing and launch and construction/operation of ground stations. NEPA compliance will be performed prior to: committing any resources that would prejudice the selection of alternatives, or taking actions that would potentially result in significant adverse environmental impacts.

For proposed NPOESS actions abroad, the IPO will examine the potential for environmental effects in conformance with EO 12114. It is expected that the only substantial actions conducted abroad will be the construction of C<sup>3</sup> facilities. The IPO will prepare ERDs in conformance with NAO 216.6 for the construction and operation of those facilities.

### **3.2.2 C<sup>3</sup> and IDP Activities**

The first formal NEPA/EO 12114 review of a C<sup>3</sup> action, to be completed in 2002, consists of the ongoing environmental review of a potential CDAS site at Svalbard, Norway. Additional NEPA/EO 12114 reviews will occur as needed after government receipt of the proposals from the potential SSPR contractors. During these reviews, the IPO will determine the potential for significant environmental effects, which may result from system integration as proposed by each

potential contractor. The IPO in tandem with the SSPR contractor will also identify feasible methods for eliminating or reducing significant ESH impacts as well as the need for subsequent NEPA studies. If potentially significant impacts are identified, then follow-on NEPA/EO 12114 studies will be performed by the IPO at a later date as the actions proposed to implement the NPOESS program are defined in greater detail. The proper time for completion of these follow-on NEPA/EO 12114 studies will be when details of the proposed NPOESS activity are sufficiently defined to allow adequate environmental impact analysis but prior to irreversible and irretrievable commitment of resources (i.e., start of construction or acquisition activities). This phased approach will allow the IPO to efficiently develop and implement the NPOESS system in full compliance with NEPA/EO 12114 requirements.

NPOESS IPO members have been working closely with the Norwegian Space Center (NSC) officials to determine Norwegian environmental requirements for the potential Svalbard CDAS (Svalsat). The Norwegian government prepared an environmental impact assessment in 1995 that analyzed initial development and foreseeable future expansion of Svalsat. Based on findings of the 1995 study, it is expected that additional Norwegian approvals will not be required for construction and operation of a CDAS at Svalbard to serve NPOESS. However, as required by NEPA/EO 12114, the IPO will conduct an environmental review of the Svalbard site to update and apply the prior studies to proposed NPOESS facilities at Svalsat.

The MMCs are primarily comprised of satellite support engineers and computer hardware/software to control and monitor the “state of health” of the satellites. Two MMCs have been identified for NPOESS—a primary at Suitland, Maryland, and a backup at Schreiver AFB, Colorado. Both sites are currently performing MMC functions for heritage weather satellite systems. After conducting an assessment of proposed computer hardware and software upgrades at the MMC backup site at Schreiver AFB, the NPOESS IPO contacted the local Schreiver AFB EPF organization to determine the extent of NEPA work. The Schreiver AFB EPF determined that the IPO does not need to submit a NEPA notification package. This decision was based on the following: the proposed action is going to occur inside an existing building and no changes will occur externally, hence, the proposed action will not pose any significant change to the surrounding environment. It is expected that future NPOESS improvements would consist of upgrades to existing equipment, or the installation of new equipment that is similar in function to existing assets. NDI/Commercial-Off-The-Shelf (COTS) acquisitions typically fall under the NEPA criteria for “Routine Procurement of Goods and Services,” in AFI 32-7061. These types of acquisitions do not typically need to be assessed in accordance with the NEPA EIAP because they are CATeXed under Section A.2.3.1 of Attachment 2 to AFI 32-7061. Proposed acquisitions that are not categorized as NDI/COTS, and are follow-on acquisitions that have undergone a NEPA EA which resulted in a Finding of No Significant Impact (FONSI), can also

qualify for a categorical exclusion (CATEX). These activities would also qualify for a CATEX from NEPA analysis under Section 6.03c3(d) and (e) of NAO 216-6.

Impacts from installation of NPOESS IDPs at Weather Centrals are expected to be similar to those at the MMCs. Each Central currently performs data processing and distribution functions for DMSP and POES systems. NPOESS will require new equipment/software to be installed at each facility, but the mission and overall process will remain the same. Again, these changes are expected to be internal to existing facilities, with no new construction anticipated. Based on this, it is expected that a NEPA CATEX under Section 6.03c3(d) and (e) of NAO 216-6 will be appropriate for installation of new equipment at Centrals for NPOESS.

### **3.2.3 Launch Support and Space Activities**

The CAE for NPOESS launch support and space activities is the Secretary of the USAF for Acquisition, Science, Technology, and Engineering (SAF/AQR). Title 32 CFR, Section 989 and AFI 32-7061 prescribe the EIAP to be followed by the AF. Title 32 CFR, Section 989.3(c)(3) establishes SAF/AQR as the final approval authority for all system-related NEPA documents. System-related NEPA/EO 12114 actions are those for which the IPO is the proponent.

With regard to space activities, the IPO will prepare and submit AF Form 813 NEPA notification packages, then submit them to the host base where the satellite launch-processing activities will occur, as well as to the SMC EPF. The EPFs will provide the IPO direction as to whether the proposed action should be (a) CATEXed from NEPA/EO 12114 analysis, (b) analyzed in an EA, or (c) analyzed in an EIS. Once the IPO determines the proper level of NEPA analysis, the AF Form 813 documentation will be forwarded to SAF/AQR for final review and approval.

## **3.3 Safety and Health**

### **3.3.1 Overall Approach**

The IPO will develop and implement an OSSE Plan in compliance with AFI 63-1201. This plan will outline the IPO's strategy for assuring OSSE through the use of a disciplined engineering process to assess Operational Risk Management as detailed in AFI 90-901, Air Force Policy Directive (AFPD) 90-9, and Air Force Pamphlet (AFP) 90-902. The IPO expects to develop a draft OSSE Plan once sufficient design and concept of operations details become available—tentatively around 2003. Once completed, the IPO will work closely with the SSPR contractor to implement and track the progress of OSSE objectives. The status of these objectives will be documented in OSSE reports. The ESHWG will oversee incorporation of system safety concerns into the overall program. It is anticipated that all requirements documents, Engineering Change Proposals (ECPs), etc., will be coordinated electronically by the

contractor through the IPO and ESHWG, where they will be reviewed, evaluated and approved. Additionally, the ESHWG will participate in review and award of any new contract to ensure that ESH requirements are addressed.

The goal of the NPOESS ESH program is to minimize programmatic risks, delays and potential impacts while promoting environmental excellence and maintaining full compliance with all applicable ESH directives. The IPO, working with the NPOESS contractors, will utilize the MIL-STD-882D system safety process to identify, assess, control, eliminate, or accept ESH issues and hazards. Contractors and subcontractors will incorporate ESH considerations into all trade studies with the objective of reducing ESH risks and costs. At a minimum, the NPOESS ESH program will comply with laws, regulations and requirements as listed in Appendix 1.

The SSPR will be required to establish a health and safety program. Hazards will be identified and evaluated for severity and probability of occurrence. Potential hazards, including personnel and public exposure to hazardous materials, should either be mitigated or reduced to acceptable risk levels through the use of the system safety design order of precedence as illustrated in MIL-STD-882 and EWR Regulation 127-1. These requirements address the implementation of safer procedures, control measures, and equipment. This hazard analysis, in tandem with mitigation measures, will be documented in SARs, HHARs, etc., developed by the SSPR contractor and submitted to the NPOESS IPO for review and approval. For space-bound hardware, a MSPSP will be developed in accordance with EWR Regulation 127-1 and will be provided in lieu of the SAR. The MSPSP will assess risks for space-bound hardware and AGE during launch processing. The SSPR contractor will develop the MSPSP.

Safety issues will arise during satellite maintenance, repair, testing, launch-processing, and launch vehicle mating activities at the satellite-processing facility. Possible risks include material, mechanical, and electrical failures; equipment slip, trip, and electrical hazards; falling debris; exposure to hazardous materials; and improper use of Personnel Protection Equipment (PPE) (i.e. gloves, respirators, hard hats, etc.). Potential risks and measures to mitigate or minimize those risks will be identified in the SSPR's System Safety Program Plan (SSPP), MSPSPs, SARs, and HHARs. Significant workplace hazards will be discussed in the MSPSP or other safety assessments. IPO personnel will also evaluate SSPR contractor test and work procedures of a hazardous nature associated with NPOESS. Furthermore, hazardous procedures performed by the 30<sup>th</sup> Bio-environmental Engineering Group at Vandenberg AFB will be reviewed and evaluated by the 30<sup>th</sup> Bio-environmental Engineering Group at Los Angeles AFB (SMC/AXZB).

Although risks will arise from launch processing and satellite manufacturing, the general procedures are well-established with over 30 years of heritage. Furthermore, the requirement for independent, on-site safety personnel, training and certification programs, emergency response

procedures, and in-depth review of procedures will minimize these risks. The primary guidance document for launch processing and satellite integration will be EWR Regulation 127-1.

Contractors are in the early stages of developing their safety documentation specifically tailored to the NPOESS program. Each competing SSPR contractor delivered initial drafts of safety-related plans during their System Requirements Reviews. These plans will continue to be updated, and risks reassessed as the system design matures. Details of these plans will be included in future revisions of this PESHE, once the SSPR contractor has been selected.

Safety and health concerns will represent a low risk to the NPOESS program.

Specific ESH issues which could affect the NPOESS program are analyzed below. These issues are projected to pose minimal programmatic risks. Each issue area will be monitored to ensure that the NPOESS program has sufficient time to develop proactive measures to minimize cost, schedule, and performance risks.

### **3.3.2 Air Quality**

Current air regulations should not significantly impact government facilities where NPOESS hardware is operated, repaired, tested, maintained and launched. The only significant potential for air emissions will be from launch of NPOESS satellites. Information and data on air quality studies included in NEPA documents prepared by the EELV SPO will be reviewed to ascertain their applicability to NPOESS launches. New regulations arising out of the Clean Air Act (CAA) may require that some air compliance analysis be conducted for NPOESS satellite activities. The ESHWG will keep abreast of any CAA regulatory changes. The development and fielding of NPOESS satellites or construction of ground facilities are not expected to cause significant impacts on air quality.

Air sampling analyses of hazardous pollutants may be required for satellite manufacturing and launch-processing activities as air and Occupational Safety and Health Administration (OSHA) laws and regulations become more stringent. If required, these analyses will determine if NPOESS launch-processing activities at a government installation will exceed federal, state or local air and occupational exposure limits and/or ambient air quality restrictions. These restrictions are identified as the National Ambient Air Quality Standards (NAAQS) and OSHA worker exposure thresholds for the purpose of protecting personnel, public health, and the environment.

### **3.3.3 Water Quality**

Most NPOESS actions will not consume water or result in the discharge of wastewater. The launch-processing location is required to have a Storm Water Pollution Prevention Plan that addresses how hazardous material releases will be minimized during rains to prevent soil, surface



and groundwater contamination. It also identifies the locations where hazardous materials are stored and used in addition to the types of measures (i.e. berms, lids on containers, catch basins, treatment facilities, etc.) that are being used to control small quantity hazardous material releases via rain water to soil, surface and groundwater. The SSPR contractor will notify the IPO of any NPOESS discharges that may need to comply with these protection and control measures to ensure compliance. Ground facilities will be located, designed, and constructed to avoid floodplains, wetlands, and other environmentally sensitive areas. As long as established procedures are followed, it is anticipated water quality issues will remain a low risk for the NPOESS program.

#### **3.3.4 Stratospheric Ozone**

Recent ozone layer studies suggest that stratospheric ozone depletion is occurring more rapidly than anticipated. The Environmental Protection Agency (EPA) is promoting the acceleration of Class I ODS elimination efforts. The EPA may add certain Class II ODS to the Class I ODS list if it is determined that specific Class II ODS will significantly contribute to ozone layer deterioration.

The NPOESS program will not approve or stipulate the use of Class I ODS in its acquisition contracts as mandated by Air Force Federal Acquisition Regulation Supplement (AFFARS) 5352.223-9000, SAF/AQ Policy 94A-003, and Air Force Materiel Command Regulation (AFMCR) 500-13. The IPO does not currently require nor does it anticipate the use of Class I ODS.

The NPOESS IPO is aware of AFI 32-7086 which mandates the cessation of Class II ODS production by CY2030. Furthermore, per AFI 32-7086, the USAF is not allowed to develop and procure any new weapon system or facility scheduled to remain in the USAF inventory beyond 01 January 2020 that will require Class II ODS in their operations and maintenance.

The last NPOESS launch (C6) is scheduled for about 2019, and the NPOESS system is envisioned to be operational beyond the year 2020. Therefore, the IPO will monitor the proposed use of Class II ODS by the SSPR contractor. Currently, there is no anticipated use of Class II ODS. However, if the use of these substances is absolutely necessary, and other substitutes are not available, the IPO will seek a waiver using the process outlined in AFI 32-7086.

The SSPR contractor will be required to certify to the IPO that no Class I ODS will be used in NPOESS activities. The NPOESS program will also require that the SSPR contractor complies with the Class II ODS restrictions identified in AFI 32-7086. Programmatic risks would be minimal based on the current absence of Class I ODS use and no identified need for future use of a Class II ODS.

### **3.3.5 Facility Siting**

The location of new NPOESS C<sup>3</sup> facilities will be in environmentally suitable areas, where adverse effects will be avoided or reduced to insignificant levels. For each proposed new facility or action, a range of alternative locations will be considered and a comparative analysis of environmental effects will be conducted in compliance with NEPA and the NEPA-implementing regulations of the USAF and NOAA. The potential for environmental impact and the significance of expected impacts will be a major factor in the decision as to the proper location of NPOESS facilities and activities. If the IPO acquires or disposes of an interest in real property, an environmental due diligence analysis might be conducted in accordance with the CERCLA, Section 120; DOC Real Property Management Manual; and AFI 32-7066.

### **3.3.6 Radiation Exposure**

Radiation can be either ionizing (e.g., radiation from radioactive materials) or non-ionizing (e.g., television signals). It is anticipated that no radioactive materials will be used in any aspect of the NPOESS program.

Safety standards for human exposure to non-ionizing radiofrequency radiation (RFR) have been developed by independent organizations such as the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE), and have been adopted by many federal government agencies. Over time these standards have been revised to reflect the latest scientific research in the field. NPOESS will acquire RFR-emitting equipment, and safety analysis of human exposure to RFR will be addressed in future ESH documents. As these standards are revised over time, the previous safety analyses will be reviewed to ascertain compliance with new standards.

The IPO expects RFR exposure to be a minimum concern due to the location and relatively low power emissions predicted for the spacecraft. The C<sup>3</sup> activities are also not expected to pose an RFR risk; however, this will be reevaluated once the final C<sup>3</sup> architecture is determined. RFR exposure is expected to be limited to downlink data transmission from the satellites to CDAS, and uplink transmission from the CDAS to the satellites. The satellite transmission equipment will be standard COTS equipment and established safety protocols will be effective in preventing exposure of personnel to harmful levels of RFR. To verify compliance with ANSI/IEEE safety standards, RFR levels will be quantified.

## **3.4 Hazardous Materials Management**

Hazardous materials and wastes will be handled, stored, transported, recycled and disposed in accordance with federal, state and local laws/regulations. Pursuant to EO 12856, federal facilities are subject to the reporting requirements of the Emergency Planning and Community

Right-to-Know Act (EPCRA) which reveals the types, volumes, and locations of hazardous materials used as well as pollution prevention measures and waste generation. In the future, government installations may request that the IPO track the use, handling, and disposition of these EPCRA-listed hazardous materials substances under this Act. SSPR contractors will use pre-existing protocols for EPCRA compliance at satellite-processing facilities. SSPR contractors will also comply with state and local laws/regulations for the handling and disposal of hazardous waste streams. These reporting requirements will apply to construction and operation of ground CDA facilities, and also to installation and operation of new equipment at MMCs and Weather Centrals. These activities would involve use of hazardous materials, such as paints, degreasers, cleaners, etc.

The IPO will ensure all necessary compliance documents will be included in the SSPR contract, and will screen contractor proposals for acknowledgement. Once on contract, the IPO will continue to monitor SSPR compliance in this area. Hazardous material use at government facilities conducting NPOESS activities will be tracked and reported to the IPO. The NPOESS SSPR contractor will be required to submit hazardous materials management plans and reports to the IPO for review and evaluation. Section 313 of EPCRA and AFI 32-7086 require the tracking and inventory of hazardous materials stored at AF installations and any releases to the environment. These data will be made available to the IPO by the NPOESS SSPR contractor and will contain information used to determine ESH impacts for the NPOESS NEPA documents as well as other reporting metrics that may be required by the DOC, DoD or the AF. As design details emerge, this PESHE will be updated to document the specific hazardous materials used in the deployment and operation of the NPOESS system, if any. Furthermore, it will state how the IPO and/or the SSPR contractor will effectively manage hazardous materials to minimize adverse effects on the environment or personnel.

It is anticipated that the NPOESS program will be a small quantity user of hazardous materials compared to other USAF programs such as launch vehicles. Nonetheless, the IPO will work closely with the contractors, SAF/AQR, and AFMC, as well as the SMC/AXZB in reducing the use of products containing hazardous materials. At Vandenberg AFB, only six NPOESS satellite-processing and launch activities are scheduled to occur over the next 20 years. The C<sup>3</sup> as well as the IDP activities will utilize hardware cleaners and antenna corrosion resistant coatings at specific site locations throughout the world. The projected use of small quantities of hazardous materials will not significantly contribute to the overall total use at these sites. Contractors are in the early stages of development of their hazardous material management documentation for this program.

Due to the small amount (if any) of hazardous wastes expected to be generated by the NPOESS program, and the existence of well-established procedures, it is expected that risk in this area will be low.

### **3.5 Pollution Prevention**

Minimization of hazardous materials targeted by the USAF will also be addressed in each new IPO acquisition. An example is the AFMC-24 list of hazardous materials (see Appendix 4) slated for reduction at government installations. The pollution prevention program will identify hazardous materials, in addition to the 24 on the AFMC list that may be targeted for reduction in use (e.g. beryllium, mercury). The NPOESS program will institute a Hazardous Materials Prioritization Reduction Process (Pollution Prevention Program) in accordance with AFIs 32-7080 and 32-7086, and EWR Regulation 127-1. The program will prioritize hazardous materials and associated processes for revision or replacement based on toxicity, volume of use, and replacement costs. The IPO will expect the SSPR contractor to establish, comply with, and maintain this plan. Once this assessment is completed, pollution prevention measures (finding environmental friendly alternatives, recycling or pollution control) will be implemented. The IPO and its contractors will identify and qualify environmental friendly alternatives on a case-by-case basis.

Recently, the USAF fulfilled its pollution prevention goal in reducing use of EPA-17 hazardous materials. The EPA-17 are the 17 most-targeted hazardous materials used by government and industry based on volume usage and toxicity. If the USAF mandates a reduction in the use of additional hazardous materials, the IPO will conduct a review of its contractor operating procedures for these constituents and guide the contractor in finding and testing environmental friendly alternatives and processes to achieve the USAF's goal.

## SECTION 4 ESH RISKS

### 4.1 Overview

The ESH risks associated with each phase of the NPOESS program and the overall system integration are summarized in Table 4.

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**Table 4**  
**NPOESS ESH Risk Summary**

<u>Activity</u>	<u>Technical</u>	<u>ESH Risk Level</u>	
		<u>Schedule</u>	<u>Cost</u>
Space	Low	Low	Low
Launch Support	Low	Low	Low
C <sup>3</sup>	Low	Low	Low
IDP	Low	Low	Low
System Integration	Low	Low	Low

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Risk acceptance by the IPO will conform to policy set forth in MIL-STD-882D. The CAE will have acceptance authority for high ESH risks. The SPD, acting as PEO, will have acceptance authority for serious and medium ESH risks. The ESHWG will have acceptance authority for low ESH risks. At this point in time, no high, serious, or medium ESH risks have been identified. As the design of NPOESS facilities and assets and the system planning process unfolds in the future, the ESHWG will re-evaluate the assigned ESH risk levels on a quarterly basis to identify any changes in risk levels. The ESHWG will promptly report any newly identified medium, serious, or high ESH risks to the SPD and/or CAE for proper acceptance or development of risk reduction measures.

### 4.2 Space Activities

Space activities will include manufacture and operation of satellites and sensors. It is expected that satellites and sensors will be fabricated at existing manufacturing facilities with experience in this type of manufacturing. The use of hazardous materials at those facilities will be in conformance with an approved Hazardous Materials Management Program (HMMP). To ensure compliance with the HMMP, the IPO will closely oversee activities of the manufacturers, including performance of facility audits to assess the degree of compliance with policies and procedures set forth in the HMMP and with applicable federal, state, and local laws and

regulations. Additionally, the SSPR contract will require flow-down of applicable ESH compliance requirements/deliverables/documents. The IPO will provide oversight to ensure that the SSPR reviews contractor proposals from an ESH perspective.

Operation of satellites would not result in substantial ESH risks. NPOESS satellites will have a seven-year lifespan. At the end of their useful life, the satellites would be disposed in conformance with the National Space Policy, AFI 91-202 and AFI 63-1201. The satellites would be lowered to an orbit 650 kilometers above the earth, where they will degrade and burn up within 25 years.

It is anticipated that IPO and SSPR personnel will take a proactive approach to identify and mitigate ESH risks, and will be supported by a strong quality control program. NPOESS space activities will pose low technical, schedule, and cost risks.

### **4.3 Launch Support**

The greatest ESH risks will occur during launch-processing activities. During this period, many hazardous operations are performed. Risks include: hoisting operations, hazardous material handling and use, tripping hazards, electrocution hazards, electro-explosive device hazards, fueling operations, falling hazards, falling debris, radio-frequency transmissions, and other launch activities. There is a slim possibility of death due to a mishap, which would be characterized as a catastrophic mishap. The IPO and the SSPR will use the system safety approach detailed in MIL-STD-882D to identify safety risks, evaluate the degree of hazard, and develop mishap risk mitigation measures. The SSPR and subcontractors will be responsible for implementing mitigation measures, subject to IPO review and oversight.

Safety risk reduction will be accomplished by ensuring compliance with EWR Regulation 127-1, Air Force Occupational Safety and Health (AFOSH) standards, and AFIs, as well as OSHA and other safety requirements. This will be accomplished through government oversight of SSPR contractor activities. Furthermore, the contractor will be required to submit a safety plan to the IPO, which will include the use of dedicated safety personnel during launch-processing activities and a training/certification program for all personnel involved in hazardous operations and the use of hazardous materials.

The government and industry have over 30 years of launch-processing experience, and the processing/integration of NPOESS is not expected to be a new or unique action. It is expected that an established facility will be used for launch operations, further reducing ESH risks. Vandenberg AFB, the expected launch site for NPOESS satellites, has nearly 40 years of launch experience, including many polar-launched, environmental satellite missions.

USAF installations may request that the NPOESS IPO track and report the use of EPCRA hazardous materials to determine if the base-wide cumulative usage of a specific EPA-listed hazardous material exceeds the base-wide reporting thresholds. Based on forecasted hazardous material use, it is anticipated that the NPOESS IPO will use quantities of specific EPCRA hazardous materials well below their specific reporting thresholds; hence, NPOESS activities would not significantly contribute to the overall hazardous materials use and waste generation at the installations where activities may occur. In the unlikely event that NPOESS activities would result in a cumulative use of EPCRA hazardous materials exceeding reporting quantities, the IPO would require the facility to file the proper reports. The IPO will then focus pollution prevention efforts on those facilities to reduce use of hazardous materials (see Section 3.5).

The elimination of Class I ODS and the reduction in the use of hazardous materials has not significantly impacted or jeopardized implementation of the DMSP and POES programs (satellite systems similar to NPOESS). Industry-wide Class I ODS elimination and hazardous material reduction efforts have already been implemented in satellite manufacturing and launch-processing activities. NPOESS satellites will differ in design from previous DMSP and POES satellites; however, those differences will not require use of Class I ODSs or substantially increase the use of hazardous materials. The IPO will prohibit the use of Class I ODSs by the SSPR or its subcontractors. The IPO will review the SSPR's HMMP to ensure the maximum practicable reduction in use of targeted hazardous materials.

The lead-time between launch of the NPP and launch of the first NPOESS satellite will be about three years. This will allow ample time to address any technical issues arising from the minimization of use of hazardous materials in launch processing.

Cost risks will also be reduced by the implementation of the NPOESS PDRR program, of which the NPP will be a significant contributor. The advanced sensors to be installed on the NPOESS satellites will be tested in actual use as part of the NPP. Launch processing of an NPP will be a trial run of the processing actions to be used for the NPOESS satellites. As a result, the ESH implications of NPOESS advances in sensor and satellite technology will be well understood prior to the launch processing of NPOESS satellites. ESH concerns will not engender substantial cost risks during NPOESS launch support activities.

#### **4.4 C<sup>3</sup> Activities**

The C<sup>3</sup> activities will require installation of equipment and antennas at existing and/or new facilities. The eventual removal of those items will generate solid wastes and possibly small quantities of hazardous wastes. Proper methods for identifying, removing and transporting those materials for disposal, reuse, or recycling will be developed. All wastes will be disposed at properly licensed facilities.

The NPOESS IPO does not anticipate that compliance with ESH laws and regulations will result in significantly increased costs for construction and operation of C<sup>3</sup> facilities. The IPO will ensure that the appropriate ESH Federal Acquisition Regulation (FAR) and AFFARS clauses are stipulated in acquisition, construction, and operation service contracts. Furthermore, ESH costs associated with the construction/operation of C<sup>3</sup> and IDP hardware and facilities are well established within the commercial sector and factored into total procurement costs. The initial costs associated with implementing pollution prevention measures (e.g., alternative materials, process equipment, and research) are expected to remain at current levels unless DoD or other agencies target a substantial number of additional materials/processes for elimination/reduction. Minimal cost impacts are also anticipated if EPCRA reporting is required at NPOESS facilities.

#### **4.5 IDP Activities**

Data processing raises relatively few and minor ESH concerns. COTS equipment will be acquired and installed at Centrals and in field terminals. Development efforts will be limited primarily to new software and possibly adaptation of computer hardware for use at Centrals or field terminals. These actions would result in low technical, schedule, and cost risks from an ESH perspective.

#### **4.6 System Integration**

Integration of the various components of the NPOESS into a functioning system will require substantial advances in technology and sophisticated application of existing technologies. However, the functional relationships of the various components are based on the flow of data in electronic form. As a result, the physical characteristics of NPOESS satellites, facilities, and equipment are very unlikely to be markedly different from existing satellites, facilities and equipment used by the POES and DMSP systems. The ESH concerns arising from NPOESS system integration are predictable and manageable using the vast experience base acquired during operation of these earlier environmental satellite systems. No major changes in the amount of hazardous materials used, the types and volumes of wastes generated, or the potential effects on sensitive environmental resources are anticipated. System integration will not result in cumulative ESH risks that differ qualitatively or quantitatively from the ESH risks generated by the components of the NPOESS system analyzed in Sections 4.1 through 4.5 above.

The IPO intends to utilize government and contractor organizations that have demonstrated proactive ESH compliance in the past, exhibited familiarity with ESH regulatory issues, and who have implemented the appropriate pollution prevention procedures. In addition, the IPO will implement established procedures and processes to minimize ESH schedule risks, under the



auspices of the base environmental management and bio-environmental and safety organizations at applicable government installations.

System integration will result in low technical, schedule, and cost risks from an ESH perspective.

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## SECTION 5 CONCLUSION

The IPO has established an ESHWG within the IPO, which is responsible for the development, implementation, and oversight of the NPOESS ESH program. The ESH program strives to ensure maximum program compliance with current and future ESH laws, regulations, instructions, requirements and policies. The ESH program also monitors the regulatory environment for changes in requirements, with a goal to minimize the probability and severity of ESH impacts throughout the life cycle of the NPOESS program.

As a result of this PESHE, we have concluded that ESH risks associated with the construction and manufacturing, operation and maintenance, and disposal activities to be undertaken by the NPOESS IPO are low. The risks associated with launch processing are low. The NPOESS system will take advantage of experience gained during past construction, testing, processing, launching, and operating activities for polar-orbiting weather satellites and support facilities. The IPO will ensure all appropriate compliance requirements are passed on to the NPOESS SSPR contractor, and will monitor the SSPR contractor's compliance.

The ESHWG has identified applicable requirements and established a strong working relationship between the IPO, ESH experts from DOC and DoD, and the NPOESS contractors. Early identification of risks and requirements will ensure a safe, effective, and environmentally friendly system for the duration of the program.

The risks, as outlined in Section 3.6, will continually be monitored and managed. This PESHE will be updated to address the status of these issues in addition to significant programmatic and regulatory changes as they develop.

The IPO remains firmly committed to developing not only an effective and affordable NPOESS for our DOC, DoD, and civil users, but one that is fully compliant with all applicable environmental and safety regulations. Our goal is to develop and field a system that has minimal impact upon the earth's environment. We believe this goal is achievable and will be met with non-significant impact to our nation's and the world's environmental resources.

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## **APPENDIX 1**

### **LAWS AND REGULATIONS AND COMPLIANCE DOCUMENTS**

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- AFFARS 5352.223-9000, “Elimination of Use of Class I ODS,” May 1996
- AFI 32-7005, “Environmental Protection Committees,” 25 February 1994
- AFI 32-7040, “Air Quality Compliance,” 9 May 1994
- AFI 32-7061, “The Environmental Impact Analysis Process,” as promulgated by 32 CFR 989
- AFI 32-7066, “Environmental Baseline Surveys in Real Estate Transactions,” 25 April 1994
- AFI 32-7080, “Pollution Prevention Program,” 12 May 1994
- AFI 32-7086, “Hazardous Materials Management,” 1 August 1997
- AFI 63-1201, “Assurance of Operational Safety, Suitability, & Effectiveness,” 1 February 2000
- AFI 90-901, “Operational Risk Management (ORM),” 1 April 2000
- AFI 91-202, “USAF Mishap Prevention Program,” October 1995
- AFI 91-301, “Air Force Occupational and Environmental Safety, Fire Protection, and Health Program,” 1 June 1996
- AFOSH Std 91-119, “Process Safety Management of Highly Hazardous Chemicals,” 1 March 1996
- AFP 90-902, “ORM Guidelines and Tools,” 14 December 2000
- AFRD 90-9, “ORM,” 1 April 2000
- Air Force Materiel Command Instruction (AFMCI) 63-1201, “Assurance of Operational Safety, Suitability, & Effectiveness,” 5 April 2000
- AFMCR 500-13, “Air Force Pollution Prevention Program,” 7 January 1993
- American Indian Religious Freedom Act
- Antiquities Act
- Archeological Resources Protection Act
- CAA
- Clean Air Act Amendments (CAAA)
- Clean Water Act (CWA)
- Coastal Barriers Resources Act
- Coastal Zone Management Act (CZMA)
- CERCLA

- Department of Commerce Real Property Management Manual, “Chapter 12– Requirements for Real Property Environmental Transfers”
- DoDD 6050.7, “Environmental Effects Abroad of Major Department of Defense Actions,” 31 March 1979
- DoDD 1000.3, “Safety and Occupational Health Policy for the DoD,” 29 March 1979
- DoDI 6055.1, “DoD Occupational Safety and Health Program,” 11 April 1989
- DoD 5000.2-R (Interim), “Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs,” 23 October 2000
- EWR 127-1, “Range Safety Requirements,” 31 October 1997
- EPCRA
- Endangered Species Act (ESA)
- EO 11514, “Protection and Enhancement of Environmental Quality,” 5 March 1970
- EO 11988, “Floodplain Management,” 24 May 1977
- EO 11990, “Protection of Wetlands,” 24 May 1977
- EO 12088, “Federal Compliance with Pollution Control Standards,” 13 October 1978
- EO 12114, “Environmental Effects Abroad of Major Federal Actions,” 4 January 1979
- EO 12196, “Occupational Safety and Health Programs for Federal Employees,” October 1991
- EO 12843, “Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances,” 21 April 1993
- EO 12856, “Federal Compliance with Right-to Know Laws and Pollution” Prevention Requirements,” 3 August 1993
- EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” 11 February 1994
- EO 12969, “Federal Acquisition and Community Right-to-Know,” 8 August 1995
- EO 13045, “Protection of Children from Environmental Health Risks and Safety Risks,” 21 April 1997
- EO 13089, “Coral Reef Protection,” 11 June 1998
- EO 13112, “Invasive Species,” 3 February 1999
- EO 13148, “Greening the Government through Leadership,” 22 April 2000
- Farmland Protection Policy Act (FPPA)



- Federal Aviation Act
- Federal Noise Control Act
- Fish and Wildlife Coordination Act
- Marine Mammal Protection Act (MMPA)
- Memorandum from the Assistant SAF/AQ, Acquisition Policy 94A-003, “Pollution Prevention on Air Force Acquisition Programs,” 23 August 1994
- MIL-STD-882D, “Standard Practice for System Safety,” 10 February 2000
- NEPA
- National Historic Preservation Act
- National Space Policy, 19 September 1996
- NAO 216-6, “Environmental Review Procedures for Implementing the National Environmental Policy Act,” 20 May 1999
- Occupational Safety and Health Act
- Pollution Prevention Act (PPA)
- Public Buildings Amendments Act (Public Law 100-678)
- Resource Conservation and Recovery Act (RCRA)
- Rivers and Harbors Act
- State and local ESH and planning/zoning regulations
- Superfund Amendment and Reauthorization Act (SARA)
- Title 10, CFR, Nuclear Regulatory Commission (NRC), Part 20, “Standards for Protection Against Radiation,” 1 January 2001
- Title 29, CFR, OSHA, Parts 1910, “Occupational Safety and Health Standards” and 1926 “Safety and Health Regulations for Construction,” 1 July 2000
- Title 32, CFR, National Defense, Part 989, “Environmental Impact Analysis Process (EIAP),” 1 July 2000
- Title 40, CFR, EPA, Parts 112 “Oil Pollution Prevention”, 260 “Hazardous Waste Management System: General”, and 1500 - 1508 “Council on Environmental Quality”, 1 July 2000
- Title 49, CFR, “Transportation,” 1 October 2000
- Toxic Substances Control Act (TSCA)

- Weapon System Environmental, Safety, and Health Evaluation Development Guide for Single Managers, November 1996
- Wild and Scenic Rivers Act
- Wilderness Act

## **APPENDIX 2**

### **CLASS I ODS**

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1. Chlorofluorocarbon (CFC)-11
2. CFC-12
3. CFC-13
4. CFC-111
5. CFC-112
6. CFC-113
7. CFC-114
8. CFC-115
9. CFC-211
10. CFC-212
11. CFC-213
12. CFC-214
13. CFC-215
14. CFC-216
15. CFC-217
16. CFC-500 (Refrigerant)
17. CFC-502 (Refrigerant)
18. Halon-1011 (fire suppressant)
19. Halon-1202 (fire suppressant)
20. Halon-1211 (fire suppressant)
21. Halon-1301 (fire suppressant)
22. Halon-2402 (vector control on some missiles)
23. Methyl Bromide (fumigant)
24. Methyl chloroform (solvent)
25. Carbon Tetrachloride (CFC-10)

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## **APPENDIX 3**

### **CLASS II ODS**

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- |                                      |                |
|--------------------------------------|----------------|
| 1. Hydrochlorofluorocarbon (HCFC)-21 | 21. HCFC-224   |
| 2. HCFC-22                           | 22. HCFC-225   |
| 3. HCFC-31                           | 23. HCFC-225ca |
| 4. HCFC-121                          | 24. HCFC-225cb |
| 5. HCFC-122                          | 25. HCFC-226   |
| 6. HCFC-123                          | 26. HCFC-231   |
| 7. HCFC-123b                         | 27. HCFC-232   |
| 8. HCFC-124                          | 28. HCFC-233   |
| 9. HCFC-124b                         | 29. HCFC-234   |
| 10. HCFC-131                         | 30. HCFC-235   |
| 11. HCFC-132                         | 31. HCFC-241   |
| 12. HCFC-133                         | 32. HCFC-242   |
| 13. HCFC-141                         | 33. HCFC-243   |
| 14. HCFC-141b                        | 34. HCFC-244   |
| 15. HCFC-142                         | 35. HCFC-251   |
| 16. HCFC-142b                        | 36. HCFC-252   |
| 17. HCFC-151                         | 37. HCFC-253   |
| 18. HCFC-221                         | 38. HCFC-261   |
| 19. HCFC-222                         | 39. HCFC-262   |
| 20. HCFC-223                         | 40. HCFC-271   |

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## **APPENDIX 4**

### **AFMC-24 HAZARDOUS MATERIALS**

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1. Ammonia
2. CFC-11
3. CFC-113
4. CFC-12
5. Chlorine
6. Chromium
7. Ethylene Glycol
8. Glycol Ethers
9. HCFC-22
10. Lead
11. Methyl Ethyl Ketone (MEK)
12. Methanol
13. Methylene Chloride
14. Methyl Isobutyl Butyl Ketone (MIBK)
15. Nickel
16. Nitric Acid
17. Perchloroethylene
18. Phenol
19. Phosphoric Acid
20. Potassium Ferricyanide
21. Toluene
22. Xylene
23. Zinc
24. 1,1,1-Trichloroethane

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**APPENDIX 5**

**ESHWG CHARTER**

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**NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL  
SATELLITE SYSTEM  
(NPOESS)**



**WORKING GROUP (ESHWG) CHARTER  
ENVIRONMENTAL, SAFETY, AND HEALTH**

**4 October 2001**

**Prepared By:  
NPOESS Integrated Program Office (IPO)  
8455 Colesville Road  
Suite 1450, Centre Building  
Silver Spring, MD 20910**

**CHARTER**  
  
**for**  
  
**NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE  
SYSTEM**  
  
**ENVIRONMENTAL, SAFETY AND HEALTH WORKING GROUP**

**1 INTRODUCTION**

**1.1 Background and Objectives**

The Integrated Program Office (IPO) of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) is a Tri-Agency office formed by Presidential direction responsible for acquiring and operating an environmental satellite system to meet the operational needs of the Departments of Commerce and Defense. The NPOESS will become operational after the current Polar-orbiting Operational Environmental Satellite System (POES) and Defense Meteorological Satellite Program (DMSP) programs expire. The NPOESS program is currently in the Program Definition and Risk Reduction (PDRR) phase.

The policy of the NPOESS IPO is to promote environmental conservation and proper stewardship of natural resources to the greatest practical extent in all of its functions. Initiated on 18 April 2000, the Environmental, Safety and Health Working Group (ESHWG) is a key component of IPO and has a lead role in implementing IPO's environmental policy. The objective of the ESHWG is to integrate sound environmental, safety, and health (ESH) management into all functions of the IPO, and in particular during planning, design, implementation, and operation of NPOESS. The ESHWG:

- conducts research into ESH conditions, resources, and legal obligations as necessary
- develops strategies to promote sustainability in design, manufacture, deployment, installation, and removal of NPOESS's physical assets
- advises IPO in regard to methods and actions to obtain compliance with national and international laws, treaties, protocols, and conventions to protect and enhance the quality of the environment.
- educates IPO on ESH concerns and legal requirements
- monitors IPO compliance with ESH requirements

The ESHWG works closely with all other functions within IPO to achieve these objectives in a cost-effective manner.

## 1.2 Reference Documents

The following document provide important background information that is relevant to the objectives of the ESHWG:

- NPOESS Memorandum of Agreement (26 May 1995)
- National Environmental Policy Act (Public Law 91-224, U.S. Code 4371 - 4374) (3 April, 1970)
- Title 40 CFR Sections 112 (Oil Pollution Prevention), 50 - 97 (Air Quality) 122 - 149 (Water Quality), 260 - 282 (Solid Wastes), and 1500 - 1508 (National Environmental Policy Act).
- NOAA Administrative Order 216-6, *Environmental Review Procedures for Implementing the NEPA* (3 June 1999)
- Executive Order 12114-*Environmental Effects Abroad* of Major Federal Actions (4 January 1979)
- NPOESS Programmatic *Environmental*, Safety, and Health Evaluation (PESHE)
- Air Force Eastern-Western Range (EWR) Regulation 127-1, *Range Safety Requirements* (31 October 1997)
- Air Force Instruction (AFI) 32-7061, *The Environmental Impact Analysis Process*, (24 January 1995), as promulgated by 32 CFR 989 (31 August 2000)
- AFT 32-7080, *Pollution Prevention Program* (12 May 1994)
- AFI 32-7086, *Hazardous Materials Management*, (1 August 1997)
- AFI 63-1201, Operational Safety, Suitability & Effectiveness
- AFI 91-301, Air Force Occupational and Environmental, Safety, Fire Protection and Health Program, (01 June 1996)Protection and Health Program, (01 June 1996)
- Department of Defense Instruction (DoDI) 6055.1, *DoD Occupational Safety and Health Program*, (11 April 1989)
- National Space Policy (19 September 1996)

## 2 ROLES AND RESPONSIBILITIES

### 2.1 Roles

The ESHWG is representative of the entire IPO. All organizations formally composing IPO have the authority to assign members to the ESHWG to ensure that their concerns and needs are considered by ESHWG as it conducts its business. The ESHWG will be divided into two groups-members and advisors. The following organizations are members of the ESHWG:

- NPOESS IPO
- National Oceanic and Atmospheric Administration (NOAA) Office of Policy and Strategic Planning
- NOAA Support Contractors

The following organizations are advisors of the ESHWG:

- Office of the Secretary of the Air Force (SAF/AQRE)
- Air Force Space and Missiles Systems Center (SMC) Environmental Management Branch (SMC/AXFB) and Environmental Safety and Health Branch (SMC/AXZB)
- NOAA Office of Facilities, Division of Environmental and Safety Compliance
- NPOESS Total System Performance Responsibility Contractor(s)

The roles and responsibilities of each member are defined in Appendix A. Additional members and advisors may be formally invited to join the ESHWG as appropriate at the request of the ESHWG.

The IPO System Program Director (SPD) will select the chairperson of ESHWG, who will serve as chair at the pleasure of the IPO. (See Appendix B for current Chair.) In the event that the chairperson cannot attend a scheduled meeting of the ESHWG, the chairperson must select an acting chairperson from among the preexisting members of ESHWG. The acting chairperson will serve in that role only for the duration of that meeting.

The ESHWG will operate by consensus; however, there may arise occasions where two or more members have requirements or philosophies that seem mutually incompatible. In such an instance, the ESHWG members will attempt to broker an agreement in the spirit of compromise.

In the event that the ESHWG members cannot resolve any issues on a matter of importance, the chair of the ESHWG is authorized to decide the matter. All decisions of the ESHWG are subject to review and ratification by the IPO SPD.

## **2.2 Responsibilities**

The ESHWG has primary authority for oversight and management of ESH functions within IPO. The ESHWG provides direction and advice to IPO on matters of ESH concerns, including but not limited to, development and implementation of ESH strategies and policies; compliance with legal obligations; integration of ESH management and stewardship goals into IPO planning; analysis and oversight of IPO actions to ensure achievement of IPO's ESH goals; and allocation of resources to implement ESH functions.

Key areas of responsibility of the ESHWG are as follows:

- Development of IPO's environmental management strategies,
- Coordination and communication on ESH affairs with agencies participating in IPO
- Consultation with environmental conservation and regulatory agencies external to IPO
- Review of IPO requests for proposals and acquisitions,
- Review and evaluation of proposals submitted to IPO,
- Preparation and implementation of the NPOESS Programmatic Environmental Safety and Health Evaluation (PESHE) document,
- Preparation and processing of National Environmental Policy Act and other environmental review documents,

- Compliance with Executive Orders,
- Preparation of Environmental Due Diligence Audits,
- Oversight of hazardous material management and pollution prevention programs,
- Review and oversight of ESH compliance by IPO and its contractors,
- Inspection of NPOESS facilities and lands to ascertain ESH conditions,
- Oversight of actions to remedy contamination or other adverse environmental conditions at NPOESS facilities and lands,
- Preparation and distribution of minutes of ESHWG meetings, and
- Maintenance of ESHWG documents and records.

### **3 SCHEDULE**

The ESHWG will meet at IPO offices in Silver Spring, MD (or at an alternate location agreed upon by the ESHWG members) at least four times per year. Additional meetings will be scheduled as necessary. The ESHWG will be informed in advance of the place and time of regular quarterly meetings and special meetings.

### **4 RESOURCES AND SUPPORT**

IPO will ensure that sufficient resources (personnel, equipment, etc.) are available for the ESHWG to accomplish its mission. IPO will assign appropriate staff to serve on the ESHWG and will provide contract support as determined necessary.

### **5 PRODUCTS**

The ESHWG will prepare written reports as necessary to fulfill its functions and assist IPO in complying with ESH laws, regulations, and treaties. The ESHWG will prepare the NPOESS PESHE and update that document as necessary. For a complete listing of ESH products for the NPOESS program, see Table 2 in the NPOESS PESHE.

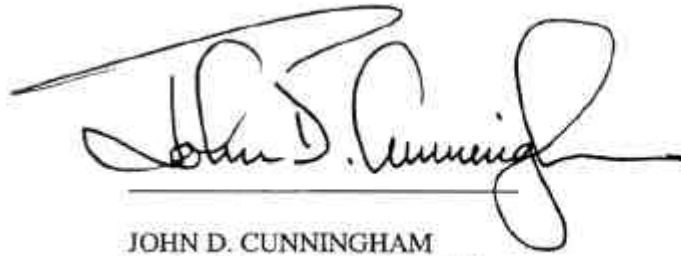
The ESHWG will maintain the official documents required for ESH compliance. The ESHWG will prepare and retain minutes of all official ESHWG meetings.

### **6 REVIEW**

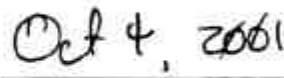
This charter becomes effective upon signature and approval by the IPO SPD. The provisions of this charter will be reviewed as necessary. Any modification, revision, suspension, or termination of this charter must conform with the procedures set forth in Section 2.1 of this charter.

## 7 APPROVAL

The signature below represents approval of this charter as a framework to plan, organize, staff and execute the NPOESS ESHWG.

A handwritten signature in black ink, appearing to read "John D. Cunningham", written over a horizontal line.

JOHN D. CUNNINGHAM  
System Program Director (SPD)  
NPOESS IPO

A handwritten date "Oct 4, 2001" written in black ink above a horizontal line.

Date

## **Appendix A: Roles and Responsibilities of EHSWG Members**

### **Members**

NPOESS IPO - Chair and sponsor

National Oceanic and Atmospheric Administration Office of Policy and Strategic Planning - Environmental policy support and interagency liaisons

SRI International, Inc. - Environmental compliance support

### **Advisors**

Office of the Assistant Secretary of the U.S. Air Force for Acquisition - Environmental support

NOAH Office of Facilities, Division of Environmental and Safety Compliance - ESH support

NPOESS Total System Performance Responsibility Contractor(s) - Development and implementation of ESH plans and procedures

SMC/AXFB - Environmental management support

SMC/AXZB - Environmental safety and health support

## **Appendix B: Current Chair**

Joanne Magoulas  
NOAA/NESDIS/IPO  
8455 Colesville Road Suite 1450  
Silver Spring, MD 20910

301-427-2077 ext 176



## **APPENDIX 6**

### **ACRONYMS AND DEFINITIONS**

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Acronyms	Definitions
ADM	Acquisition Decision Memorandum
AF	Air Force
AFB	Air Force Base
AFD	Air Force Directive
AFFARS	Air Force Federal Acquisition Regulation Supplement
AFI	Air Force Instruction(s)
AFMC	Air Force Materiel Command
AFMCR	Air Force Materiel Command Regulation
AFMCI	Air Force Materiel Command Instruction
AFOSH	Air Force Occupational Safety and Health
AFP	Air Force Pamphlet
AFPD	Air Force Policy Directive
AFWA	Air Force Weather Agency
AGE	Aerospace Ground Equipment
ANSI	American National Standards Institute
C <sup>3</sup>	Command, Control, and Communication
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAE	Component Acquisition Executive
CARD	Cost Analysis Requirements Document
CATEX	Categorical Exclusion
CATEXed	Categorically Excluded
CDA	Command and Data Acquisition
CDAS	Command and Data Acquisition Stations
CDRL	Contract Data Requirement List
Centrals	Weather Centrals
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	Chlorofluorocarbon
CFC-10	Carbon Tetrachloride
CFR	<i>Code of Federal Regulations</i>
COTS	Commercial-Off-The-Shelf
CWA	Clean Water Act
CY	calendar year
CZMA	Coastal Zone Management Act
DAE	Defense Acquisition Executive
DAL	Data Accession List
DMSP	Defense Meteorological Satellite Program
DOC	Department of Commerce
DoD	Department of Defense
DoDD	DoD Directive
DoDI	DoD Instruction(s)
EA	Environmental Assessment
ECP	Engineering Change Proposal(s)
EDR	Environmental Data Record(s)

EELV	Evolved Expendable Launch Vehicle
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EMD	Engineering
EO	Executive Order(s)
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-To-Know Act
EPF	Environmental Planning Function(s)
ERD	Environmental Review Document(s)
ESA	Endangered Species Act
ESH	Environmental, Safety and Health
ESHWG	Environmental, Safety and Health Working Group
EWR	Eastern-Western Range
EXCOM	Executive Committee
FAR	Federal Acquisition Regulation
FNMOCC	Fleet Numerical Meteorology and Oceanography Center
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HCFC	Hydrochlorofluorocarbon
HHAR	Health Hazard Analysis Report(s)
HMMP	Hazardous Materials Management Program
HRD	High Rate Data
IAW	in accordance with
IDP	Interface Data Processing
IEEE	Institute of Electrical and Electronics Engineers
IORD	Integrated Operational Requirements Document
IPO	Integrated Program Office
IPT	Integrated Product Team(s)
LRD	Low Rate Data
MAIS	Major Automated Information System
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program(s)
MEK	Methyl Ethyl Ketone
MIBK	Methyl Isobutyl Butyl Ketone
MIL-STD	Military Standard
MMC	Mission Management Center
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MS	Milestone
MSPSP	Missile System Pre-launch Safety Package
NAAQS	National Ambient Air Quality Standards
NAO	NOAA Administrative Order
NASA	National Aeronautics and Space Administration
NAVOCEANO	Naval Oceanographic Office
NDI	Non-Developmental Item
NEPA	National Environmental Policy Act
NESDIS	National Environmental Satellite, Data and Information Service

NOAA	National Oceanic and Atmospheric Administration
NPOESS	National Polar-orbiting Operational Environmental Satellite System
NPP	NPOESS Preparatory Project
NRC	Nuclear Regulatory Commission
NSC	Norwegian Space Center
ODS	Ozone Depleting Substances
OPSP	Office of Policy and Strategic Planning (NOAA)
ORM	Operational Risk Management
OSHA	Occupational Safety and Health Administration
OSSE	Operational Safety, Suitability, and Effectiveness
OSTP	Office of Science and Technology Policy
PDD/NSTC-2	Presidential Decision Directive
PDRR	Program Definition and Risk Reduction
PEO	Program Executive Officer
PESHE	Programmatic Environmental, Safety, and Health Evaluation
POES	Polar-orbiting Environmental Satellite
PPA	Pollution Prevention Act
PPE	Personnel Protection Equipment
RCRA	Resource Conservation and Recovery Act
RDR	Raw Data Record(s)
RFP	Request for Proposal
RFR	Radio-Frequency Radiation
ROD	record of decision
RPIE	Real Property Installed Equipment
SAF/AQ	Secretary of the Air Force for Acquisition
SAF/AQR	Secretary of the Air Force for Acquisition, Science, Technology, and Engineering
SAMP	Single Acquisition Management Plan
SAR	Safety Assessment Report(s)
SARA	Superfund Amendment and Reauthorization Act
SMC	Space and Missile Systems Center
SMC/AXZB	30 <sup>th</sup> Bio-environmental Engineering Group at Los Angeles AFB
SPD	System Program Director
SPO	System Program Office
SSPP	System Safety Program Plan
SSPR	Shared System Performance Responsibility
TEMP	Test and Evaluation Master Plan
TRD	Technical Requirements Document
TSCA	Toxic Substances Control Act
US	United States
USAF	United States Air Force

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